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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* CHARLES T. WILLOUGHBY

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Appeal 2007-4407  
Application 10/603,753  
Technology Center 2800

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Decided: June 24, 2008

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Before JOSEPH F. RUGGIERO, CARLA M. KRIVAK, and KEVIN F. TURNER *Administrative Patent Judges.*

KRIVAK, *Administrative Patent Judge.*

DECISION ON APPEAL

Appellant appeals under 35 U.S.C. § 134 from a final rejection of claims 1-5 and 7. We have jurisdiction under 35 U.S.C. § 6(b).

We affirm.

## STATEMENT OF CASE

Appellant's claimed invention is a head mounted device that includes a fiber-optic illuminator employing a Fresnel condenser lens (Spec. 1:2-3).

Claim 1, reproduced below, is representative of the subject matter on appeal.

1. A head-mounted illuminator configured for use with a source of light, comprising:

a housing with a hollow interior having a light-receiving end and a light-projecting end;

an optical fiber carrying light from the source of light into the interior of the housing through the light receiving end;

a Fresnel lens mounted in the light-projecting end of the housing for receiving light from the optical fiber and projecting the light into a field of view, the Fresnel lens having a two sides, one with a set of grooves that face the interior of the housing; and

a mechanism for mounting the housing to a wearer's head.

## REFERENCES

Mori	US 4,428,031	Jan. 24, 1984
Li	US 5,430,620	Jul. 4, 1995
Belfer	US 6,234,640 B1	May, 22, 2001

Claims 1-4 and 7 stand rejected under 35 U.S.C. § 103(a) based upon the teachings of Li and Mori. Claim 5 stands rejected under USC § 103(a) based upon the teachings of Li, Mori, and Belfer.

Appellant contends that Mori teaches a Fresnel lens having a diameter of 30 centimeters, and thus cannot be worn on the head. Appellant also contends there is no motivation to combine Mori with Li. (Br. 3)

## ISSUES

Did the Examiner err in rejecting claims 1-4 and 7 under 35 U.S.C. § 103(a) as obvious over the combination of Li and Mori?

Did the Examiner err in rejecting claim 5 under 35 U.S.C. § 103(a) as obvious over the combination of Li, Mori, and Belfer?

## FINDINGS OF FACT

1. Appellant discloses a head mounted illuminator that includes a Fresnel lens having one side with a set of grooves facing the interior of a housing, i.e., “grooves-in” (Spec. 3:3-13; cl. 1).

2. Appellant also discloses that the use of “grooves-in” Fresnel lenses allows a smooth, cleanable outside surface (Spec. 3:21-24).

3. Li teaches a mounted illuminator for dynamically adjusting the field of illumination. The type of lens that can be used may include lens systems, lens arrays, graded index lenses, and Fresnel lenses (col. 7, ll. 51-53; Appellant’s Spec. 1:20-23).

4. Mori teaches a device for illuminating the interior of a room by using an optical waveguide for transmitting light rays and a convex Fresnel lens for refracting light rays emitted from an exit end of the optical wave guide (Abstract). The Fresnel lens is mounted in such a way that it may be turned inside out to select the desired direction of illumination (col. 4, ll. 15-19).

## PRINCIPLES OF LAW

“Section 103 forbids issuance of a patent when ‘the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains.’” *KSR Int'l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1734 (2007).

Under *Leapfrog Ent., Inc. v. Fisher-Price, Inc.*, 485 F.3d 1157 (Fed. Cir. 2007) “[a]n obviousness determination is not the result of a rigid formula disassociated from the consideration of the facts of a case. Indeed, the common sense of those skilled in the art demonstrates why some combinations would have been obvious where others would not.” *Id.* at 1161 (citing *KSR*, 127 S.Ct. 1727, 1739 (2007))

“The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.” *KSR Int'l Co.* at 1739. “If a person of ordinary skill can implement a predictable variation, § 103 likely bars its patentability. For the same reason, if a technique has been used to improve one device, and a person of ordinary skill in the art would recognize that it would improve similar devices in the same way, using the technique is obvious unless its actual application is beyond his or her skill.” *Id.* at 1740.

The Court of Appeals for the Federal Circuit has found that “[a]s long as some motivation or suggestion to combine the references is provided by the prior art taken as a whole, the law does not require that the references be combined for the reasons contemplated by the inventor.” *In re Beattie*, 974 F.2d 1309, 1312 (Fed. Cir. 1992). We note that the Court of Appeals for the

Federal Circuit has determined that the motivation to combine under § 103 must come from a teaching or suggestion within the *prior art*, within the *nature of the problem to be solved*, or within the *general knowledge of a person of ordinary skill* in the field of the invention, to look to particular sources, to select particular elements, and to combine them as combined by the inventor. *Ruiz v. A.B. Chance Co.*, 234 F.3d 654, 665 (Fed. Cir. 2000) (emphasis added). Further, our reviewing court has recently reaffirmed that “an implicit motivation to combine exists not only when a suggestion may be gleaned from the prior art as a whole, but when the ‘improvement’ is technology-independent and the combination of references results in a product or process that is more desirable, for example because it is stronger, cheaper, cleaner, faster, lighter, smaller, more durable, or more efficient. . . . In such situations, the proper question is whether the ordinary artisan possesses knowledge and skills rendering him *capable* of combining the prior art references.” *DyStar Textilfarben GmbH & Co. Deutschland KG v. C.H. Patrick Co.*, 464 F.3d 1356, 1368 (Fed. Cir. 2006).

## ANALYSIS

### *Claims 1-4 and 7*

Appellant contends that the Examiner’s assertion that mounting the illuminator housing to a wearer’s head “for the benefit and advantage dynamic adjustment [sic] of the field of illumination” would have been obvious, is incorrect (Br.2). Appellant states that the assembly of Mori discloses diameters on the order of 30cm (about a foot) and is intended for permanent installation in a room (Br. 3). Thus, there is no suggestion or motivation to combine Mori and Li in the manner suggested.

The Examiner asserts, however, that it would be obvious to modify the illuminator of Li to position the Fresnel lens with grooves facing the interior of the housing as taught by Mori for the “benefit and advantage minimizing interference fringes on refracted light rays” (Final Office Action 3; Ans. 5-6), not for dynamic adjustment as Appellant contends.

The Examiner correctly noted Appellant has not addressed Li who teaches all the limitations of claim 1 except having “one set of its grooves facing the interior of the housing” (Ans. 6). Mori was cited to show that the Fresnel lens may be turned inside out to select the desired direction of illumination, that is, to have the grooves facing the interior of a housing (FF 4; col. 4, ll. 15-19; Ans. 7).

Further, Mori teaches, as recognized by Appellant, a “Fresnel lens having a desired shape and size can be manufactured from the base Fresnel lens” (emphasis ours) (col. 4, ll. 38-40; Br. 2) and that a “Fresnel lens having any diameter of less than 30 cm can be obtained by machining said base Fresnel lens” (emphasis ours) (col. 4., ll. 43-45; Br. 2-3).

In this instance, the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time of the invention to one ordinarily skilled in the art. Mori teaches that it was known to have the grooves of a Fresnel lens facing the interior of a housing. It also not only would have been obvious to one skilled in the art to make the Fresnel lens of Li a “grooves-in” type lens as taught by Mori, but the combination yields no more than predictable results, specifically since Mori teaches that the Fresnel lens can have any shape and size.

We do not find error in the Examiner's rejection of claims 1-4 and 7 as obvious over Li and Mori.

*Claim 5*

The Examiner asserts neither Li nor Mori, alone or in combination, teaches an illuminator having a conical housing as recited in claim 5. However, Belfer discloses a fiber optic replicant lamp including a housing having a conical light shaped end (Final Office Action 4).

Appellant contests that the Examiner is using hindsight reconstruction, and then proceeds to state "a cylindrical housing would be just as effective as a conical one" (Br. 4), and thus, there would be no motivation to combine Li and Mori with Belfer.

Given Appellant's own admission that a cylindrical housing is just as effective as a conical housing with respect to the area of illumination, it would have been obvious to a skilled artisan to combine Li and Mori with Belfer to obtain an illuminator having a conical housing as recited in claim 5.

For the reasons set forth above we do not find error in the Examiner's rejection of claim 5.

**CONCLUSION**

We therefore conclude that the Examiner did not err in rejecting claims 1-5 and 7 under 35 U.S.C. § 103(a).

**DECISION**

The decision of the Examiner rejecting claims 1-5 and 7 is affirmed.

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Application 10/603,753

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1)(iv).

AFFIRMED

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GIFFORD, KRASS, SPRINKLE, ANDERSON & CITKOWSKI, P.C  
PO BOX 7021  
TROY MI 48007-7021